

What is claimed is:

1. A method for access control of a standard compliant multimedia bitstream comprising:
 - selectively extracting codewords from the bitstream;
 - encrypting the extracted codewords; and
 - mapping the encrypted codewords back into the bitstream,
wherein the resulting encrypted bitstream is a secure bitstream accessible by users with a proper key, and has a number of codewords equal to the number of codewords in the bitstream prior to encryption to maintain standard compliance.
2. The method of Claim 1, wherein the bitstream has an associated standard defined code table, the codewords each have an assigned fixed length index and the step of encrypting comprises:
 - concatenating the extracted codewords to form a codeword concatenation C;
 - mapping the concatenated codewords to indices in the code table;
 - concatenating the mapped indices to provide a binary bit string S;
 - encrypting the binary bit string S with a chosen secure cipher to provide an encrypted binary bit string S^1 ; and
 - mapping S^1 to codewords in the code table to form an encrypted codeword concatenation C^1 .
3. The method of Claim 2 wherein the bitstream has a syntax comprising multiple information fields, and the step of selectively extracting codewords comprises extracting variable length codewords from a particular information field.

4. The method of Claim 1 wherein the bitstream is an MPEG-4 error resilient, data partitioned bitstream, and the step of selectively extracting codewords comprises extracting motion vector information from the bitstream.

5. The method of Claim 1 wherein the bitstream is an MPEG-4 video bitstream, and the step of selectively extracting codewords comprises extracting fixed length coded texture information.

6. A compliance preserving encryption method for a concatenated sequence of variable length code (VLC) codewords, the method comprising:

mapping each VLC codeword to a fixed length index in a code table to obtain a concatenation of fixed length indices;

encrypting the concatenation of fixed length indices with a chosen cipher; and

mapping the encrypted concatenation of indices to VLC codewords in the code table to obtain an encrypted concatenation of VLC codewords, wherein the number of codewords in the concatenated sequence remains unchanged before and after encryption such that syntax compliance is maintained.

7. A system for access control of a standardized multimedia partitioned bitstream comprising:

an encoder capable of scrambling header information in the partitioned bitstream and remapping the scrambled information into a standard compliant header partition resulting in an encrypted bitstream; and

a decoder having a decryption key capable of recovering proper header information,

wherein the bitstream can be transmitted over an error prone channel and recovered for correct interpretation by an authorized end user.

8. A method for access control of a multimedia bitstream, the method comprising steps of:
- accessing a portion of the bitstream to extract selective information;
 - scrambling the extracted selective information to provide encrypted codewords; and
 - mapping the encrypted codewords back into the portion of the bitstream, wherein the resulting bitstream is a secure bitstream accessible by users with a proper key.
9. The method of Claim 8, wherein the bitstream is a standardized data partitioned bitstream, and wherein the step of accessing comprises:
- accessing a header portion of the bitstream having coding type information and motion vector information (MV codewords), and extracting the MV codewords.
10. The method of Claim 9, wherein the scrambling step comprises:
- mapping the extracted MV codewords to indices of a standard MV code table for the bitstream;
 - concatenating the mapped indices to provide a binary bit string S;
 - encrypting the binary bit string S to provide an encrypted binary bit string S';
 - dividing the encrypted binary bit string S' into equal length segments;
 - using the equal length codewords to index the standard MV code table to construct a sequence of new MV codewords; and
 - entropy encoding the new MV codewords.
11. The method of Claim 8, wherein the bitstream is an MPEG-4 video bitstream and wherein the extracted selective information is fixed length code (FLC) texture information.